Cloud Academy – Level 151

Lab: Ging

# Directions

Your task is to design, implement, and test an application that meets the following requirements.

# Application Design

* Class structure includes proper inheritance between classes, and all required properties and methods described below
* Following proper class member coding standards and naming conventions

# Application Requirements

You are tasked to create an application for a search engine. This will be a console application and will be required to accept commands to perform the following actions:

## **Add a link to the Search Engine**

* When this command occurs, the system must collect the following information:
  + Type of link: Sponsored or NonSponsored
  + Url (Internet Address)
  + Description Text
  + For sponsored, also request and record:
    - The name of the sponsor
    - A decimal cost per impression (ie: search hit).
  + For non-sponsored, also request and record
    - A date representing when the link’s page was last crawled.
    - A link kind which can should be a forum, blog, or other.

## **List links in the Search Engine**

* When this command occurs, the system must:
  + Display all links in the system
  + For each link, show the kind of link, Url, Description Text, and current impression count.

## **Search for links in the Search Engine**

* When this command occurs, the system must:
  + Request text from the user to search for.
  + Ask the search engine to search for that text and return the links that contain that text in their descriptions.
  + The search engine will have each found link increment its own impression count before returning the links from the method.
  + The returned links should be shown to the user with these rules:
    - Always show the Url
    - All sponsored links should be shown to the user first.
      * These should be labeled as “Sponsored”
    - All non-sponsored links should then be shown.
      * These should include their last crawled date.

## **Financials**

* When this command occurs, the system must:
  + List links:
    - List no more than 5 links
    - List only links with a current balance greater than zero
    - Show the link’s Url, sponsor and current balance
  + The current balance for a link:
    - Should be calculated by the link instance itself
    - Is calculated by multiplying the cost per impression times the count of impressions

## Testing Requirements

Your application project is required to have all user interface (UI) and business logic (Biz) fully covered with using the Visual Studio Unit Testing Framework (MS Test). The one exception is that the Program.cs file does not need to be covered at all.